

CLAIMS

1. A hydraulic style vibration-proof device comprising:

a cylindrical fitting;

a first attachment fitting;

a vibration-isolating base made of rubber elastomer coupling an upper end opening of the cylindrical fitting and the first attachment fitting;

a diaphragm disposed to oppose the vibration-isolating base and forming a liquid chamber between the vibration-isolating base and the diaphragm within the cylindrical fitting;

and a cup-shaped second attachment fitting attached to a lower end opening of the cylindrical fitting and forming an air chamber between the second attachment fitting and the diaphragm, which is characterized in that said second attachment fitting is fabricated from aluminum and includes a peripheral wall portion, a bottom wall portion formed to be thicker in wall thickness than the peripheral wall portion and a curved portion interposed between the bottom wall portion and the peripheral wall portion and curved in an arc form in axial cross-section;

the bottom wall portion is defined with a through-hole and has a bolt having a serration portion below its head press-fitted in the through-hole and provided fixedly to the second attachment fitting in such a manner that the bolt juts out from the second attachment fitting downwardly.

2. The hydraulic style vibration-proof device as set forth in claim 1, which is characterized in that a thickness of the second attachment fitting is gradually increased from the bottom wall portion toward the curved portion until reaching a maximum at the curved portion and then gradually decreased to the peripheral wall portion.

3. The hydraulic style vibration-proof device as set forth in claim 2, which is characterized in that a plane of the upper end opening of the second attachment fitting slants relative to the bottom wall portion in a manner such that the peripheral wall portion is formed at different heights in the circumferential direction and at a higher location of the peripheral wall portion, a thickness at a corresponding location of the curved portion is thicker.

4. The hydraulic style vibration-proof device as set forth in any one of claims 1 to 3, which is characterized in that a sealing agent is filled between the bolt and the second attachment fitting.

5. The hydraulic style vibration-proof device as set forth in any one of claims 1 to 4, which is characterized in that an inner wall surface of the through-hole is, at its lower end, provided with a non-serration bonding portion between the inner wall surface and the bolt.

6. The hydraulic style vibration-proof device as set forth in claim 5, which is characterized in that a length of the serration portion is set to be shorter than a depth of the through-hole, thus providing the non-serration bonding portion between the serration portion and a lower end opening face of

the through-hole.

7. The hydraulic style vibration-proof device as set forth in claim 5, which is characterized in that the lower end opening face of the through-hole is chamfered at its edge to provide the non-serration bonding portion.

8. The hydraulic style vibration-proof device as set forth in any one of claims 1 to 7, which is characterized in that assuming an outside diameter of the serration portion to be a (mm), an aperture diameter of the through-hole to be b (mm) and an axial length of a bonding portion of the serration portion to the through-hole to be c (mm), a bonding index d of the bolt defined by the formula given below is 3 and upwards:

$$d = (a/b) \times c.$$

9. The hydraulic style vibration-proof device as set forth in claim 8, which is characterized in that the bonding index d of the bolt is 5 and upwards.